EXHIBIT A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Ulrich Kessler
Appl. No.:	10/530,998
Conf. No.:	2162
Filed:	April 12, 2005
Title:	FREEZE-DRIED COFFEE TABLETS
Art Unit:	1794
Examiner:	A. Weier
Docket No.:	0112701-00607

DECLARATION UNDER 37 C.F.R. § 1.132

Sir:

I hereby state as follows:

1. My experience and qualifications are as follows: I am a Chemical engineer (Process engineer) from (Technische Universität München (Technical University Munich) 1987) and obtained a PhD on fluid bed and spray drying of lactic acid starter cultures (Technische Universität München (Technical University Munich) 1993) and did additional studies of biotechnology (Technische Universität München (Technical University Munich) 1992). I have been working in the Research and Development sector of Nestlé since 1993. Since 2001 I am responsible for Drying and Agglomeration of soluble coffee products at Nestlé Product Technology Center, Orbe, Switzerland.

2. I am one of the named inventors of the above-identified patent application and am therefore familiar with the inventions disclosed therein.

3. I have reviewed the outstanding Office Action dated May 28, 2009 pending against the above-identified patent application. In addition to considering the outstanding Office Action, I have reviewed the references cited therein as well as the pending claims.

4. The present invention is directed, in part, to coffee tablets obtained by molding and freeze-drying a solution of coffee solids into a desired shape where the coffee tablets have improved dissolution properties and appealing smooth and/or shiny surface appearances. The improved dissolution properties and appealing aesthetics of the present coffee tablets are a result, at least in part, of the close surface pore structure and internal pore structure wherein a majority of the pores in the internal pore structure are interconnected and have a size between 5 and 50 micrometers.

5. Surprisingly, it has been found that coffee tablets formed according to the present methods with close surface properties and internal pore structures have desirable smooth outer surfaces, sufficient strengths to prevent easy breakage and provide acceptable solubility. To prepare coffee tablets of the present invention, a gas is added to a coffee composition before the coffee composition is frozen in a mold. Specifically, a coffee composition that contains coffee solids may be molded in a mold while adding a gas thereto to form a coffee tablet having a three-dimensional shape that conforms to that of the mold and that has a smooth and/or shiny outer surface and a closed surface pore structure. The gas added to the coffee composition contributes to the forming of the internal pore structure of the present coffee tablets. The resulting pore structure enables the tablet to dissolve rapidly in hot water without the need for any excessive stirring or other agitation. At the same time, the closed surface pore structure provides for a coffee tablet a certain contribution to the mechanical strength of the particle/tablet and its resistance to breakage attrition.

6. *Darbyshire* discloses tablets made of a carbohydrate material and is entirely directed to solving the problem of providing a tablet with good solubility by inclusion of gas under pressure in closed voids of the tablet. The tablets may be produced from a particulate base material that is compacted to form a tablet. The enclosure of pressurized gas is, for example, achieved by treating a porous powder or the finished tablet with pressure under elevated temperature. See, *Darbyshire*, col. 4, lines 25-28. As is illustrated in Figure 1a of *Darbyshire*, the individual powder particles of which the tablets are formed retain their structure and are

bonded together at the contact points. The porosity of the tablet is, therefore, mainly formed by the interstitial voids between the individual particles. *Darbyshire* does not disclose pore size of the tablets, but does disclose sizes of individual particles between 0.4 and 0.9 mm, as is detailed in Example 1. As one of ordinary skill in the art reviewing *Darbyshire*, I believe that this particle size will result in interstitial voids considerably larger than the 5 to 50 microns of the present claims. The pore diameter of the interstitial voids can be estimated by using the method of the equivalent diameter (Krischer, Kast; Trocknungstechnik volume one, Die wissenschaftlichen Grundlagen der Trocknungstechnik, Springer Verlag 1978). Considering a porosity of the tablet of 30 % the pore diameter will be above 110 microns for a mean particle size of 0.4 mm. For the given particle size range the pore diameter will be even larger.

7. In view of the previous discussion, the skilled artisan would understand that *Darbyshire* fails to disclose or suggest coffee tablets having an internal pore structure wherein a majority of the pores in the internal pore structure are interconnected and have a size between 5 and 50 micrometers. Further, *Darbyshire* also fails to disclose or suggest methods for forming coffee tablets, the methods comprising the step of molding a coffee composition that contains coffee solids while adding a gas thereto. At no place in the disclosure does *Darbyshire* even recognize that improved coffee tablet properties may be obtained by providing a closed surface pore structure and an internal pore structure where a majority of the pores are interconnected and have a size of between 5 and 50 micrometers.

8. *Eldred* discloses the formation of tablets from a basic powder, a spray dried instant coffee. The tablets are formed by moisturizing the spray dried powder with a small amount of water in a liquid carrier wherein the coffee powder is insoluble and then compacting the powder. The purpose of *Eldred* is to make the coffee powder particles stick without becoming a solid cake-like mass and losing their individual structure. See, *Eldred*, col. 2, lines 14-26 and lines 40-44. The pore size is not mentioned in *Eldred*. However, the structure of the tablets is composed of the individual particles retaining their internal structure and bonded at the contact points. See, *Eldred*, col. 6, lines 63-68. As one of ordinary skill in the art reviewing *Eldred*, I believe that the tablets of *Eldred* will have a larger pore size than what is required by

the present claims. Regular spray dried coffee typically has a mean particle size in the range of 200 to 250 microns. Since the particles in the product of *Eldred* maintains their individual structure and the particles are fused only at their contact points a bed porosity of 40 % can be assumed. In this case the pore diameter of the interstitial voids will be above 90 microns for a mean particle size of 200 micrometer. For the given particle size range the pore diameter will be even larger. The pore diameter was estimated by using the method of the equivalent diameter (Krischer, Kast; Trocknungstechnik volume one, Die wissenschaftlichen Grundlagen der Trocknungstechnik, Springer Verlag 1978).

9. In view of the previous discussion, the skilled artisan would understand that *Eldred* fails to disclose or suggest coffee tablets having an internal pore structure wherein a majority of the pores in the internal pore structure are interconnected and have a size between 5 and 50 micrometers. Further, *Eldred* also fails to disclose or suggest methods for forming coffee tablets, the methods comprising the step of molding a coffee composition that contains coffee solids while adding a gas thereto. At no place in the disclosure does *Eldred* even recognize that improved coffee tablet properties may be obtained by providing a closed surface pore structure and an internal pore structure where a majority of the pores are interconnected and have a size between 5 and 50 micrometers.

10. *FR '708* teaches a substance for instant drinks that is obtained by extraction of the base product followed by lyophilisation and placing in molds to give shapes. The substance formed may be coated with an edible protective layer to protect against shock and humidity. See, *FR '708*, Abstract (translation). This patent does not allow any conclusion as to the pore size of the interstitial voids, since there are too many factors influencing the final pore size not disclosed in *FR '708*, such as water content, freezing velocity, mechanical force used to break the crystals, potential gassing of the extract before moulding, freeze drying conditions, etc.

11. In view of the previous discussion, the skilled artisan would understand that *FR '708* fails to disclose or suggest coffee tablets having an internal pore structure wherein a majority of the pores in the internal pore structure are interconnected and have a size between 5

and 50 micrometers. Further, *FR '708* also fails to disclose or suggest methods for forming coffee tablets, the methods comprising the step of molding a coffee composition that contains coffee solids while adding a gas thereto. At no place in the disclosure does *FR '708* even recognize that improved coffee tablet properties may be obtained by providing a closed surface pore structure and an internal pore structure where a majority of the pores are interconnected and have a size between 5 and 50 micrometers. In fact, *FR '708* fails to disclose or suggest any pore structure or size, let alone an interconnected pore structure with pores having a size between 5 and 50 micrometers.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001, Title 18, United States Code, and that willful false statements may jeopardize the validity of this patent and any patent issuing therefrom.

Date: 22. Sep. 2009

Print Name U. Kessler